REMARKS

Claims 1, 3 and 4 have been rejected under 35 USC 102(e) as anticipated by Dempo; claim 2 has been rejected under 35 USC 103(a) as unpatentable over Dempo. The rejections are respectfully traversed.

In "Response to Arguments" on page 5 of the Office Action, the Examiner respectfully disagrees with the arguments presented in the Amendment filed June 9, 2004, since Dempo "must inherently be limited to a certain number of connection entries. Dempo uses the ATM standard, which as the Applicant has point out, requires 2^{28} entries. Therefore, the Dempo system *is* limited to an allowable range, namely, the range requiring 2^{28} table entries." The Examiner also notes that the claim language does not require this distinction.

Applicant's respectfully disagree with the Examiner's response. While there is a theoretic limit of $2^{28} * 248$ entries (not 2^{28} entries as indicated by the examiner because it is obvious from claim 1 of Dempo that a mapping is needed from an input ATM connection (as given by VPINCI and input CID), the present invention actively limits the allowed number of entries by having its AAL2 packet exchange device configured the VPINCI bit that are actually screened (if these are m bits, the number of entries is limited to $2^m * 248$ entries).

In any event, Dempo discloses an AAL2 packet exchange device that is placed in front of an ATM switch for executing CPS packet re-multiplexling into ATM cells. The AAL2 packet exchange device extracts Common Part Sublayer-Protocol Data Units ("CPS-PDUs") from ATM cells which are supplied from input ATM lines, extracts CPS packets from the CPS-PDUs, alters Channel Identifiers ("CID") of the CPS packets if necessary so that CID collision will not occur between CPS packets supplied from different sources to be outputted to the same output ATM connection, and multiplexes the CPS packets to be outputted to the same output ATM connection in ATM cells of the same output ATM connection. The CID alteration is executed by referring to a path setting table which stores each correspondence between a first internal address for discriminating between input ATM connections, an input CID, a second internal address for discriminating between output ATM connections, and an output CID. By the CID alteration, CPS

packets which have been contained in ATM cells from different sources can be multiplexed onto the same VP/VC.

The present invention discloses an ATM switching equipment that comprises a switching network, an input interface unit including an input processing unit, an output interface unit including an output processing unit, a microprocessor, a server switching unit comprising an AAL2 switcher that is connected to the switching network via an interface, an input processing unit to which the AAL2 switcher is connected and an output switching unit to which the AAL2 switcher is connected. The switching equipment being configured to write a new VPINCI information for a further connecting section into cells of arriving data streams upon utilization of routing tables, the AAL2 switcher being configured for simultaneous processing of a maximum plurality of incoming connections, an AAL2 routing list being provided for each of the incoming connections, and the microprocessor being configured to limit an allowable value range for VPINCI values in a header of ATM cells according to a plurality of the AAL2 routing lists, so that the interface considers corresponding VPINCI coding bits.

In Dempo, an AAL2 packet exchange is placed in front of an ATM switch (column 20, lines 50 to 52 "[...] an AAL2 packet exchange device which is placed in front of an ATM switch for executing... "). In the present invention, the AAL2 packet exchange connects the device to the ATM switching network without external links (see figure 2). That is the AAL2 packet exchange device is implanted in the ATM switch (page 12, lines 7 to 9 "[...] a server switching unit comprising: an AAL2 switcher that is connect to the switching network via an interface...").

Additionally, Dempo requires a "selector" for selecting ATM cells including CPS-PDUs (AAL2 packets) from ATM cells not including AAL2 packets (column 20, lines 65 to 67 "[...] said AAL2 packet exchange device comprising: a selector means for selecting ATM cells containing CPS-PDUs and ATM cells not containing CPS-PDUs..."). The present invention does not need such a device/means. Instead, it is taken care of by administrative or other signaling means in which ATM connections including AAL2 connections are routed to the implanted AAL2 packet exchange

device. Hence, the selection functionality is done on ATM cell level in Dempo while it is done on ATM connection level without any further dedicated device/means in the present invention.

Dempo also depends on administrative or other signaling means in order to get the "channel flag" column of its routing table (see figure 5 in Dempo) set correctly. Dempo proposes a method to avoid CID collision such that for some AAL2 connections, a new CID number has to be determined for the outgoing AAL2 connection when the CID number of the incoming AAL2 connection is already used in the same ATM output connection by an other AAL2 connection coming from an other ATM input connection (column 20, lines 63 to 65 "[...] supplied from different sources into the same ATM connection without the CID collision, [...]"). This problem of CID collision only occurs when it is intended to keep the CID number during AAL2 packet exchange for most of the AAL2 connections. This means that in Dempo it is intended to hold the CID number for an incoming AAL2 connection over the AAL2 packet exchange device for the outgoing AAL2 connection as often as possible. But it is not required (e.g. from ITU-T standardization) that the CID number keeps unchanged during AAL2 packet exchange.

The present invention does not mention the problem of CID collision explicitly because it inherently allows AAL2 connection changes the CID number during AAL2 packet exchange for sake of generality. It assumes that (some randomly occurring exceptions) a new CID number (that is not used by any other AAL2 connection of the same outgoing ATM connection) is generated and predefined for each new outgoing AAL2 connection during the AAL2 connection setup procedure (by administrative or other signaling means). The selection of a new CID number for the new outgoing AAL2 connection is not influenced by the CID number of its incoming AAL2 connection but the mapping for each AAL2 connection from the incoming CID number and VCINPI number to the outgoing CID number and VCINPI number is noted in the lookup tables.

Dempo does not support full connectivity if several AAL2 packet exchange devices are used or it does not scale if only a single AAL2 packet exchange device is used. Figure 4 of Dempo shows an AAL2/ATM switch with 8 input and output lines. It is a very small ATM switch. If the number of input lines is increased, either the selector has to be increased or if there are groups of

input lines (each having their own selector) then all selectors have to be connected to one unique AAL2 packet exchange device. Otherwise, if several AAL2 packet exchange devices are used in front of the ATM switch the full connectivity of AAL2 connections will fail unless a second stage of AAL2 packet exchange devices is used for each group of output lines of the ATM switch. The scalability of the AAL2 packet exchange device is limited by the performance of the "input processing section." This consideration in scalability leads to a quite different (decentralized) architecture in Dempo compared to the centralized Server architecture as proposed by the present invention.

Moreover, Dempo organizes the routing table in a flat way while our invention organizes it in a hierarchical way (one table per screened VPINCI, that is 2^m tables), and Dempo uses a centralized memory for buffering CPS-PDU while the present invention uses a decentralized approach (one buffer per VPINCI table).

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no.449122029900.

However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

By _____

Kevin R. Spivak
Registration No.: 43,148
MORRISON & FOERSTER LLP
2000 Pennsylvania Avenue, NW Suite 5500
Washington, DC 20006
(202) 887-1525